

FACT SHEET
REISSUANCE OF A GENERAL VPDES PERMIT
TO DISCHARGE TO STATE WATERS AND STATE
CERTIFICATION UNDER THE STATE WATER CONTROL LAW

The Virginia State Water Control Board has under consideration the reissuance of a general permit for discharges of storm water associated with industrial activity. This general permit will replace the general permit VAR5 which expires on June 30, 2004. Owners covered under the expiring general permit who wish to continue to discharge under a general permit must register for coverage under the new permit.

Permit Number: VAR05
Name of Permittee: Any owner in the Commonwealth of Virginia agreeing to be regulated under the terms of this general permit.
Facility Location: Commonwealth of Virginia
Receiving Waters: Surface waters within the boundaries of the Commonwealth of Virginia, except waters specifically named in Board regulations or policies which prohibit such discharges.

On the basis of preliminary review and application of lawful standards and regulations, the State Water Control Board proposes to issue the general permit subject to certain conditions and has prepared a draft permit. The category of discharges to be included involves storm water discharges from subcategories of industrial facilities with the same or similar types of operations, and discharging the same or similar types of wastes. The Board has determined that this category of discharges is appropriately controlled under a general permit. The draft general permit requires that all covered facilities within a particular subcategory meet standardized permit conditions and monitoring requirements, and provides dates for submitting monitoring data where required. This permit will maintain the Water Quality Standards adopted by the Board.

Persons may comment in writing on the proposed issuance of the general permit within 60 days from December 1, 2003 and not later than 4:00 pm January 30, 2004. Comments should be addressed to the contact person listed below. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered by the Board.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Burt Tuxford at:

Virginia Department of Environmental Quality
P.O. Box 10009
Richmond, Virginia 23240
(804) 698-4086

A public hearing will be held on this draft permit on January 13, 2004. Notice of the public hearing will be published in newspapers and in the Virginia Register. Following the public hearing comment period, the Board will make its determinations regarding the proposed issuance.

Administrative

The general permit will have a fixed term of five (5) years effective upon Board approval. Every authorization to discharge under this general permit will expire at the same time and all authorizations to

discharge will be renewed on the same date. Discharges will be covered under the general permit upon approval of the Registration Statement and delivery of a copy of the general permit to the applicant.

This general permit does not apply to any new or increased discharge that will result in significant effects to the receiving waters. That determination is made in accordance with the State Water Control Board's Anti-degradation Policy contained in the Virginia Water Quality Standards, 9 VAC 25-260-10 et seq. Anti-backsliding will also be considered prior to granting coverage under this general permit to operations currently discharging under another VPDES permit.

If an applicant for a discharge appears to qualify for this general permit, the applicant will be required to submit a general permit Registration Statement. The Department will review the registration statements received and either send a copy of the general permit to those that qualify, or send a copy of the application for an individual permit to those that do not qualify.

Summary of Significant Changes From the 1999 Industrial Storm Water General Permit

This general permit replaces the previous Industrial Storm Water General Permit which was issued for a five-year term in June, 1999. Following is a list of significant changes included in the permit as compared to the 1999 permit.

1. Definitions. Added definitions for "best management practices (BMPs)", "control measure", "industrial storm water", and "small municipal separate storm sewer system". Modified the definitions of "industrial activity", "no exposure" and "storm water discharge associated with industrial activity" to be consistent with the changes made to those definitions by EPA in the 1999 Phase 2 Storm Water Regulation.
2. Authorization to discharge. "No Exposure Exemption" - Deleted this provision from the regulation because it was superseded by the no-exposure exemption in the 1999 Phase 2 Storm Water Regulation, which was incorporated into the VPDES Permit Regulation (9 VAC 25-31-10 et seq.) in September 2000.
3. Registration Statement. Added a "facility contact and phone number" information requirement, and a requirement that the permittee identify all the applicable industrial sectors that apply to his facility.
4. Termination of Permit Coverage. This section was broken out as a separate section, and the termination requirements were clarified.
5. General Permit.
 - Renumbered the permit from VAR5 to VAR05 to be consistent with EPA's general permit numbering scheme.Part I. Effluent Limitations, Monitoring Requirements and Special Conditions.
 - Reorganized and rewrote this section extensively to be consistent with EPA's 2000 Multi-Sector Industrial Storm Water General Permit (MSGP), and to clarify the permit monitoring requirements.
 - "Benchmark Monitoring" - Modified the monitoring periods from twice a year in the 2nd and 4th years of the permit, to once annually in each year of the permit. Also, required the monitoring data to be maintained on site with the SWPPP, and only submitted to the Department upon request.
 - "Benchmark Monitoring" - Added a table showing the industrial sectors subject to benchmark monitoring, and the parameters that must be monitored.

- "Benchmark Monitoring Waiver" - modified this provision to require the permittee to submit monitoring waiver requests to the Department, along with the supporting monitoring data and a certification statement that the discharges that the waiver request covers will remain as clean or better than when the monitoring occurred.
- "Compliance Monitoring" - Added a table showing federal Effluent Limitation Guidelines applicable to specific industrial sectors that may be subject to the compliance monitoring requirement.
- Special Conditions
 - "Allowable Non-storm Water Discharges" - added "Incidental wind blown mist from cooling towers" to the list of allowable non-storm water discharges.
 - "Salt Storage" - moved this requirement from the SWPPP to the Special Conditions section.
 - "Water Quality Protection" - added this special condition that requires the permittee to select, install, implement and maintain BMPs to minimize pollutants and meet water quality standards. If the permittee's discharge causes water quality standards violations or downstream pollution, the Board may take enforcement action, may require the permittee to include and implement appropriate controls in the SWPPP, and/or may require an individual permit.

Part III. SWPPPs.

- Reorganized the SWPPP requirements slightly, and modified the requirements to be consistent with EPA's 2000 MSGP. Modified the plan preparation requirement such that existing general permit holders that are renewing coverage under the permit must update and implement any changes to their SWPPP by August 30, 2004. Facilities that are seeking new coverage under the permit must develop and implement the SWPPP prior to submittal of the Registration Statement.
- "Allowable Non-storm Water Discharges" - Clarified what the permittee must include in the SWPPP to allow these non-storm water discharges from the facility.
- "Special Pollution Prevention Plan Requirements" - Additional requirements for EPCRA 313 facilities were extensively reduced, consistent with EPA's 2000 MSGP.

Part IV. Sector Specific Requirements.

- Modified the sector specific requirements to be consistent with EPA's 2000 MSGP.
- Modified the benchmark monitoring parameters for Sector C (Chemical and Allied Products) and Sector U (Food and Kindred Products) by combining "TKN" and "Nitrate + Nitrite Nitrogen" into "Total Nitrogen", and setting a benchmark concentration of 2.2 mg/L.
- Added additional benchmark monitoring to Sector G (Metal Mining), consistent with EPA's 2000 MSGP.
- Added effluent limitations to Sectors K (Hazardous Waste TSD Facilities) and Sector L (Landfills), consistent with EPA's 2000 MSGP.
- Added coverage for SIC 4499 (limited to: facilities that are engaged in dismantling ships, marine salvaging, and marine wrecking - ships for scrap) to Sector N (Scrap Recycling and Waste Recycling Facilities). Added specific SWPPP requirements for those facilities, and benchmark monitoring requirements.
- Clarified coverage requirements for Sector O (Steam Electric Generating Facilities) to state that "heat capture/heat recovery/combined cycle generating facilities" are not covered by this permit.
- Clarified the coverage requirements for Sector AD (Non-classified Facilities) to make it clear that facilities may not choose to be covered under this sector, but must be assigned to this sector by the Board/Director.

Activities Covered Under This General Permit

The permit covers storm water discharges associated with industrial activity to surface waters of the Commonwealth, including discharges through municipal separate storm sewer systems. The permit is intended to cover discharges from the industrial sectors/activities listed in Table 1. Owners/operators of

FACT SHEET
VPDES GENERAL PERMIT VAR05
PAGE 4

facilities currently covered under the 1999 Industrial Storm Water General Permit who wish to obtain coverage under this general permit must submit a Registration Statement to be covered under this permit.

TABLE 1. SECTORS OF INDUSTRIAL ACTIVITY COVERED BY THIS PERMIT

SIC Code or Activity Code	Activity Represented
Sector A: Timber Products	
2411	Log Storage and Handling (Wet deck storage areas are only authorized if no chemical additives are used in the spray water or applied to the logs).
2421	General Sawmills and Planning Mills.
2426	Hardwood Dimension and Flooring Mills.
2429	Special Product Sawmills, Not Elsewhere Classified.
2431-2439 (except 2434 - see Sector W)	Millwork, Veneer, Plywood, and Structural Wood.
2441, 2448, 2449	Wood Containers.
2451, 2452	Wood Buildings and Mobile Homes.
2491	Wood Preserving.
2493	Reconstituted Wood Products.
2499	Wood Products, Not Elsewhere Classified.
Sector B: Paper and Allied Products	
2611	Pulp Mills.
2621	Paper Mills.
2631	Paperboard Mills.
2652-2657	Paperboard Containers and Boxes.
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes.
Sector C: Chemical and Allied Products	
2812-2819	Industrial Inorganic Chemicals.
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass.
2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; In Vitro and In Vivo Diagnostic Substances; Biological Products, Except Diagnostic Substances.
2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations.
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products.
2861-2869	Industrial Organic Chemicals.
2873-2879	Agricultural Chemicals.
2891-2899	Miscellaneous Chemical Products.
3952 (limited to list)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors.
Sector D: Asphalt Paving and Roofing Materials and Lubricants	
2951, 2952	Asphalt Paving and Roofing Materials.
2992, 2999	Miscellaneous Products of Petroleum and Coal.
Sector E: Glass Clay, Cement, Concrete, and Gypsum Products	
3211	Flat Glass.
3221, 3229	Glass and Glassware, Pressed or Blown.
3231	Glass Products Made of Purchased Glass.
3241	Hydraulic Cement.
3251-3259	Structural Clay Products.
3261-3269	Pottery and Related Products.
3271-3275 (except 3273).....	Concrete, Gypsum and Plaster Products, Except Ready-Mixed Concrete.
3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Non-metallic Mineral Products.
Sector F: Primary Metals	
3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills.
3321-3325	Iron and Steel Foundries.
3331-3339	Primary Smelting and Refining of Non-ferrous Metals.
3341	Secondary Smelting and Refining of Non-ferrous Metals.
3351-3357	Rolling, Drawing, and Extruding of Non-ferrous Metals.
3363-3369	Non-ferrous Foundries (Castings).
3398, 3399	Miscellaneous Primary Metal Products.
Sector G: Metal Mining (Ore Mining and Dressing)	
1011	Iron Ores.
1021	Copper Ores.
1031	Lead and Zinc Ores.

FACT SHEET
VPDES GENERAL PERMIT VAR05
PAGE 5

1041, 1044	Gold and Silver Ores.
1061	Ferroalloy Ores, Except Vanadium.
1081	Metal Mining Services.
1094, 1099	Miscellaneous Metal Ores.
Sector H: Coal Mines and Coal Mining Related Facilities	
1221-1241	Coal Mines and Coal Mining-Related Facilities.
Sector I: Oil and Gas Extraction and Refining	
1311	Crude Petroleum and Natural Gas.
1321	Natural Gas Liquids.
1381-1389	Oil and Gas Field Services.
2911	Petroleum Refineries.
Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities	
HZ	Hazardous Waste Treatment Storage or Disposal.
Sector L: Landfills and Land Application Sites	
LF	Landfills, Land Application Sites, and Open Dumps.
Sector M: Automobile Salvage Yards	
5015	Automobile Salvage Yards.
Sector N: Scrap Recycling Facilities	
5093	Scrap Recycling Facilities.
4499 (limited to list)	Dismantling Ships, Marine Salvaging, and Marine Wrecking - Ships For Scrap
Sector O: Steam Electric Generating Facilities	
SE	Steam Electric Generating Facilities.
Sector P: Land Transportation and Warehousing	
4011, 4013	Railroad Transportation.
4111-4173	Local and Highway Passenger Transportation.
4212-4231	Motor Freight Transportation and Warehousing.
4311	United States Postal Service.
5171	Petroleum Bulk Stations and Terminals.
Sector Q: Water Transportation	
4412-4499 (except 4499 facilities as specified in Sector N)	Water Transportation.
Sector R: Ship and Boat Building or Repairing Yards	
3731,3732	Ship and Boat Building or Repairing Yards.
Sector S: Air Transportation	
4512-4581	Air Transportation Facilities.
Sector T: Treatment Works	
TW	Treatment Works.
Sector U: Food and Kindred Products	
2011-2015	Meat Products.
2021-2026	Dairy Products.
2032-2038	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties.
2041-2048	Grain Mill Products.
2051-2053	Bakery Products.
2061-2068	Sugar and Confectionery Products.
2074-2079	Fats and Oils.
2082-2087	Beverages.
2091-2099	Miscellaneous Food Preparations and Kindred Products.
2111-2141	Tobacco Products.
Sector V: Textile Mills, Apparel, and Other Fabric Product Manufacturing, Leather and Leather Products	
2211-2299	Textile Mill Products.
2311-2399	Apparel and Other Finished Products Made From Fabrics and Similar Materials.
3131-3199 (except 3111 - see Sector Z)	Leather and Leather Products, except Leather Tanning and Finishing.
Sector W: Furniture and Fixtures	
2434	Wood Kitchen Cabinets.
2511-2599	Furniture and Fixtures.
Sector X: Printing and Publishing	
2711-2796	Printing, Publishing, and Allied Industries.
Sector Y: Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries.	

FACT SHEET
VPDES GENERAL PERMIT VAR05
PAGE 6

3011	Tires and Inner Tubes.
3021	Rubber and Plastics Footwear.
3052, 3053	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting.
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified.
3081-3089	Miscellaneous Plastics Products.
3931	Musical Instruments.
3942-3949	Dolls, Toys, Games and Sporting and Athletic Goods.
3951-3955 (except 3952 facilities as specified in Sector C).	Pens, Pencils, and Other Artists' Materials.
3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal.
3991-3999	Miscellaneous Manufacturing Industries.
Sector Z: Leather Tanning and Finishing	
3111	Leather Tanning, Currying and Finishing.
Sector AA: Fabricated Metal Products	
3411-3499	Fabricated Metal Products, Except Machinery and Transportation Equipment.
3911-3915	Jewelry, Silverware, and Plated Ware
Sector AB: Transportation Equipment, Industrial or Commercial Machinery	
3511-3599 (except 3571-3579 - ... see Sector AC)	Industrial and Commercial Machinery (Except Computer and Office Equipment).
3711-3799 (except 3731, 3732 - .. see Sector R)	Transportation Equipment (Except Ship and Boat Building and Repairing).
Sector AC: Electronic, Electrical, Photographic, and Optical Goods	
3571-3579	Computer and Office Equipment.
3612-3699	Electronic, Electrical Equipment and Components, Except Computer Equipment.
3812-3873	Measuring, Analyzing and Controlling Instrument; Photographic and Optical Goods.
Sector AD: Non-Classified Facilities/Storm Water Discharges Designated By the Board As Requiring Permits	
N/A	Other Storm Water Discharges Designated By the Board As Needing a Permit (see 9 VAC 25-31-120 A 1 e) or Any Facility Discharging Storm Water Associated With Industrial Activity Not Described By Any of Sectors A-AC. Note: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.

This permit covers storm water discharges from a wide variety of industrial activities. Because the conditions which affect the presence of pollutants in storm water discharges vary among industries, the permit contains industry-specific sections that describe the storm water pollution prevention plan requirements, the numeric effluent limitation requirements and the monitoring requirements for that industry.

The volume and quality of storm water discharges associated with industrial activity will depend on a number of factors, including the industrial activities occurring at the facility, the nature of precipitation, and the degree of surface imperviousness. Pollutants in storm water discharges from industrial plants may be reduced using the following methods: eliminating pollution sources, implementing Best Management Practices to prevent pollution, using traditional storm water management practices, and providing end-of-pipe treatment.

This VPDES general permit follows the basic framework of the U.S. EPA Multi-Sector General Permit published in the Federal Register on October 30, 2000 (65 FR 64746) and modified on January 9, 2001 (66 FR 1675) and March 23, 2001 (66 FR 16233). Readers are referred to the Federal Register for details on the profiles of the various industrial sectors, reviews of pollutants found in storm water, selection of analytical monitoring parameters, estimated costs for pollution prevention measures, and storm water pollution control options for each industry type.

In the case where a facility has industrial activities occurring on-site which are described by any of the subsectors in the general permit, those industrial activities are considered to be co-located industrial activities. Storm water discharges from co-located industrial activities are authorized by this permit,

provided that the permittee complies with any and all additional pollution prevention plan and monitoring requirements applicable to the co-located industrial activity. The permittees are required to determine which additional pollution prevention plan and monitoring requirements are applicable to the co-located industrial activity by examining the narrative descriptions of each sector specific coverage section of the permit (Discharges Covered Under This Section).

Limitations on Coverage

Because of the broad scope of this permit, most industrial activities currently regulated under the VPDES storm water program could be covered by the permit. There are, however, several types of storm water discharges which are not covered under this permit. Discharges into waterbodies where a discharge is restricted or prohibited by another policy or regulation of the State Water Control Board are not authorized by this general permit. Storm water discharges subject to an existing individual VPDES permit are generally not covered under this permit. In most cases, these discharges are more appropriately covered under terms and conditions of their existing permit. These discharges may be covered under this general permit only when the existing individual permit has expired, or been terminated at the permittee's request, and only when the expired, or terminated, permit did not contain numeric effluent limitations more stringent than those in this permit. Construction activities are not eligible for coverage under this permit.

Other discharges of storm water that are not authorized under the general permit are:

1. Discharges that are not within the industrial sectors identified in Table 1;
2. Discharges that are mixed with sources of non-storm water unless the non-storm water component of the discharge is listed below or is in compliance with a different VPDES permit;
3. Discharges that are located at a facility where a VPDES permit has been terminated (other than at the request of the permittee) or denied;
4. Discharges that the Director has determined to be or may reasonably be expected to be contributing to a violation of a water quality standard; and
5. Discharges subject to storm water effluent guidelines not described in the permit;

Storm water discharges from non-metallic mineral mining facilities (SIC Major Group 14) and ready-mixed concrete facilities (SIC 3273) are not covered by this permit. Facilities in these SIC categories should seek coverage under separate VPDES general permits developed specifically for these industries.

Discharges to waters for which a "total maximum daily load" (TMDL) allocation has been established by the Board and approved by EPA are not eligible for coverage under this permit unless the storm water pollution prevention plan (SWPPP) developed by the owner incorporates measures and controls that are consistent with the assumptions and requirements of such TMDL. To be eligible for coverage under this general permit, the SWPPP must incorporate any conditions applicable to discharges from the facility that are necessary for consistency with the assumptions and requirements of the TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from the facility, the owner must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation.

The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharge is in compliance with this general permit: discharges from fire fighting activities; fire hydrant flushings; potable water including water line flushings; uncontaminated air conditioning or compressor condensate; irrigation drainage; landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with manufacturer's instructions; pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed); routine external building wash down which does not use detergents; uncontaminated ground water or spring water; foundation or footing drains where

flows are not contaminated with process materials such as solvents; incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

All other non-storm water discharges, whether mixed with storm water or not, must be in compliance with a VPDES permit (other than this general permit) issued for the discharge.

Permit Effluent Limitations and Monitoring Requirements

1. Discharge Monitoring Requirements: The permit contains three general types of monitoring requirements: visual examinations of storm water discharges; benchmark monitoring; and compliance monitoring for effluent guidelines compliance. These are minimum monitoring requirements and if a permittee so chooses, he may conduct additional sampling to acquire more data to improve the statistical validity of the results. Through increased analytical or visual monitoring the permittee may be able to better ascertain the effectiveness of their pollution prevention plan.

a. Quarterly visual examination of storm water quality: Each industrial sector is required to conduct a quarterly visual examination of the storm water discharges from the facility. These visual examinations will assist with the evaluation of the pollution prevention plan, and provides a simple, low cost means of assessing the quality of storm water discharge with immediate feedback. Facilities covered under this permit are required to conduct a quarterly visual examination of storm water discharges associated with industrial activity from each outfall, except discharges exempted under the representative discharge provision. The visual examination of storm water outfalls should include any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution. No analytical tests are required to be performed on these samples.

The examination of the sample must be made during daylight hours and in well lit areas. The visual examination is not required if there is insufficient rainfall or snow-melt to runoff, or if hazardous conditions prevent sampling. Whenever practicable the same individual should carry out the collection and examination of discharges throughout the life of the permit to ensure the greatest degree of consistency possible in recording observations. Grab samples for the examination shall be collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff begins discharging. Reports of the visual examination include: the examination date and time, examination personnel, visual quality of the storm water discharge, and probable sources of any observed storm water contamination. The visual examination reports must be maintained on site with the pollution prevention plan.

When conducting a storm water visual examination, the pollution prevention team, or team member, should attempt to relate the results of the examination to potential sources of storm water contamination on the site. For example, if the visual examination reveals an oil sheen, the facility personnel (preferably members of the pollution prevention team) should conduct an inspection of the area of the site draining to the examined discharge to look for obvious sources of spilled oil, leaks, etc. If a source can be located, then this information allows the facility operator to immediately conduct a clean-up of the pollutant source, and/or to design a change to the pollution prevention plan to eliminate or minimize the contaminant source in the future.

To be most effective, the personnel conducting the visual examination should be fully knowledgeable about the storm water pollution prevention plan, the sources of contaminants on the site, the industrial activities conducted exposed to storm water and the day to day operations that may cause unexpected pollutant releases.

If the visual examination results in an observation of floating solids, the personnel should carefully examine the solids to see if they are raw materials, waste materials or other known products stored or used at the site. If an unusual color or odor is sensed, the personnel should attempt to compare the color or odor to the colors or odors of known chemicals and other materials used at the facility. If the examination reveals a large amount of settled solids, the personnel may check for unpaved, unstabilized areas or areas of erosion. If the examination results in a cloudy sample that is very slow to settle-out, the personnel should evaluate the site draining to the discharge point for fine particulate material, such as dust, ash, or other pulverized, ground, or powdered chemicals.

If the visual examination results in a clean and clear sample of the storm water discharge, this may indicate that no visible pollutants are present. This would be a indication of a high quality result, however, the visual examination will not provide information about dissolved contamination. If the facility is in a sector or subsector required to conduct analytical (chemical) monitoring, the results of the chemical monitoring, if conducted on the same sample, would help to identify the presence of any dissolved pollutants and the ultimate effectiveness of the pollution prevention plan. If the facility is not required to conduct benchmark monitoring, it may do so if it chooses to confirm the cleanliness of the sample.

While conducting the visual examinations, personnel should constantly be attempting to relate any contamination that is observed in the samples to the sources of pollutants on site. When contamination is observed, the personnel should be evaluating whether or not additional BMPs should be implemented in the pollution prevention plan to address the observed contaminant, and if BMPs have already been implemented, evaluating whether or not these are working correctly or need maintenance. Permittees may also conduct more frequent visual examinations than the minimum quarterly requirement, if they so choose. By doing so, they may improve their ability to ascertain the effectiveness of their plan. Using this guidance, and employing a strong knowledge of the facility operations, permittees should be able to maximize the effectiveness of their storm water pollution prevention efforts through conducting visual examinations which give direct, frequent feedback to the facility operator or pollution prevention team on the quality of the storm water discharge.

b. Benchmark monitoring requirements: Certain industrial sectors are required to conduct monitoring of storm water discharges associated with industrial activity for pollutants of concern. In some cases, the monitoring is applicable only to a subsector rather than the entire industrial sector. Benchmark monitoring requirements involve laboratory chemical analyses of samples collected by the permittee. Table 2 lists the industrial sectors, or subsectors, and the parameters associated with them.

TABLE 2. INDUSTRIAL SECTORS SUBJECT TO BENCHMARK MONITORING

Industry Sector ¹	Industry Sub-sector	Benchmark Monitoring Parameters
A	General Sawmills and Planing Mills Wood Preserving Facilities Log Storage and Handling Hardwood Dimension and Flooring Mills	TSS, Zinc. Arsenic, Chromium, Copper. TSS. TSS.
B	Paperboard Mills	BOD.
C	Industrial Inorganic Chemicals Plastics, Synthetic Resins, etc. Soaps, Detergents, Cosmetics, Perfumes .. Agricultural Chemicals	Aluminum, Iron, Total N. Zinc. Total N, Zinc. Total N, Iron, Zinc, Phosphorus.
D	Asphalt Paving and Roofing Materials	TSS.
E	Clay Products	Aluminum.

	Concrete Products	TSS, pH, Iron.
F	Steel Works, Blast Furnaces, and Rolling .. and Finishing Mills. Iron and Steel Foundries	Aluminum, Zinc. Aluminum, TSS, Copper, Iron, Zinc.
	Non-Ferrous Rolling and Drawing	Copper, Zinc.
	Non-Ferrous Foundries (Castings)	Copper, Zinc.
G ₂	Copper Ore Mining and Dressing	TSS
H	Coal Mines and Coal-Mining Related	TSS, Aluminum, Iron
	Facilities	
K	Hazardous Waste Treatment, Storage	TKN, TSS, TOC, Arsenic, Cadmium, Cyanide,
	or Disposal	Lead, Mercury, Selenium, Silver.
L	Landfills, Land Application Sites, and	Iron, TSS.
	Open Dumps	
M	Automobile Salvage Yards	TSS, Aluminum, Iron, Lead.
N	Scrap Recycling and Waste Recycling	Copper, Aluminum, Iron, Lead, Zinc, TSS,
	Facilities	Cadmium, Chromium.
O	Steam Electric Generating Facilities	Iron.
Q	Water Transportation Facilities	Aluminum, Iron, Zinc.
S	Airports with deicing activities ₃	BOD, TKN, pH.
U	Grain Mill Products	TSS, TKN.
	Fats and Oils	BOD, Total N, TSS.
Y	Rubber Products	Zinc.
Z	Leather Tanning and Finishing	TKN
AA	Fabricated Metal Products Except Coating .	Iron, Aluminum, Zinc.
	Fabricated Metal Coating and Engraving	Zinc.

¹ Table does not include parameters for compliance monitoring under effluent limitations guidelines.

² See Sector G (Part IV G) for additional monitoring discharges from waste rock and overburden piles from active ore mining or dressing facilities.

³ Monitoring requirement is for airports with deicing activities that utilize more than 100 tons of urea or more than 100,000 gallons of glycol per year.

Benchmark monitoring is to be conducted annually by grab samples collected during each year of coverage under the general permit.

Samples are to be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval may be waived by the permittee where the preceding measurable storm event did not result in a measurable discharge from the facility. The 72-hour requirement may also be waived by the permittee where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample must be taken during the first 30 minutes of the discharge. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger must submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. A minimum of one grab is required. Where the discharge to be sampled contains both storm water and non-storm water, the facility is required to sample the storm water component of the discharge at a point upstream of the location where the non-storm water mixes with the storm water, if practicable. In addition to the analytical results, permittees are required to provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

This permit requires benchmark analytical monitoring for discharges from certain classes of industrial facilities. Industries may reduce the level of pollutants in storm water runoff from their sites through the development and proper implementation of a storm water pollution prevention plan. Benchmark monitoring is a means by which to measure the concentration of a pollutant in a storm water discharge. Because these pollutants have been reported at or above benchmark levels, DEQ is requiring monitoring after the pollution prevention plan has been implemented to assess the effectiveness of the pollution prevention plan and to help ensure that a reduction of pollutants is realized. Analytical results are quantitative and therefore can be used to compare results from discharge to discharge and to quantify the improvement in storm water quality attributable to the storm water pollution prevention plan, or to identify a pollutant that is not being successfully controlled by the plan. The results of the benchmark monitoring are not intended to be used to evaluate actual or potential exceedances of instream water quality criteria. This permit only requires benchmark monitoring for the industry sectors or subsectors that demonstrated a potential to discharge pollutants at concentrations of concern.

To determine the industry sectors and subsectors that would be subject to benchmark monitoring requirements contained in the general permit, DEQ relied primarily upon the fact sheet prepared for the 1995 EPA multi-sector general permit (60 FR 50804). In developing their multi-sector general permit, EPA reviewed the data submitted in accordance with the 1990 group storm water permit application process. This information helped identify potential pollutants that may be present in the storm water discharges.

To determine when analytical monitoring would be required, EPA established "benchmark" concentrations for the pollutant parameters on which monitoring results had been received. The "benchmarks" are the pollutant concentrations above which EPA determined represents a level of concern. The level of concern is a concentration at which a storm water discharge could potentially impair, or contribute to impairing water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed by EPA as a level below which there is little potential for water quality concern. As such, the benchmarks also provide an appropriate level to determine whether a facility's storm water pollution prevention measures are successfully implemented. The benchmark concentrations are not effluent limitations and should not be interpreted or adopted as such. These values are merely levels which EPA has used to determine if a storm water discharge from any given facility merits further monitoring to insure that the facility has been successful in implementing a storm water pollution prevention plan. As such these levels represent a target concentration for a facility to achieve through implementation of pollution prevention measures at the facility. Based on an evaluation of the EPA fact sheet and the industrial sector-specific analytical monitoring requirements, DEQ added benchmark values for two additional parameters, total organic carbon and total kjeldahl nitrogen. DEQ also combined the parameter "total kjeldahl nitrogen" with "nitrate plus nitrite as nitrogen" to form the "total nitrogen" parameter. Table 3 lists the parameter benchmark values.

TABLE 3. PARAMETER BENCHMARK VALUES

Parameter Name	Benchmark Level	Source
Biochemical Oxygen Demand(5 day)	30 mg/L	4
Chemical Oxygen Demand	120 mg/L	5
Total Suspended Solids	100 mg/L	7
Oil and Grease	15 mg/L	8
Total Organic Carbon (added by DEQ)	110 mg/L	8
Total Kjeldahl Nitrogen (added by DEQ)	1.5 mg/L	7
Nitrate + Nitrite Nitrogen	0.68 mg/L	7

FACT SHEET
VPDES GENERAL PERMIT VAR05
PAGE 12

Total Nitrogen (added by DEQ)	2.2 mg/L	7
Total Phosphorus	2.0 mg/L	6
pH	6.0-9.0 s.u.	4
Acrylonitrile (c)	7.55 mg/L	2
Aluminum, Total (pH 6.5-9)	0.75 mg/L	1
Ammonia	19 mg/L	1
Antimony, Total	0.636 mg/L	9
Arsenic, Total (c)	0.16854 mg/L	9
Benzene	0.01 mg/L	10
Beryllium, Total (c)	0.13 mg/L	2
Butylbenzyl Phthalate	3 mg/L	3
Cadmium, Total (H)	0.0159 mg/L	9
Chloride	860 mg/L	1
Copper, Total (H)	0.0636 mg/L	9
Dimethyl Phthalate	1.0 mg/L	11
Ethylbenzene	3.1 mg/L	3
Fluoranthene	0.042 mg/L	3
Fluoride	1.8 mg/L	6
Iron, Total	1.0 mg/L	12
Lead, Total (H)	0.0816 mg/L	1
Manganese	1.0 mg/L	13
Mercury, Total	0.0024 mg/L	1
Nickel, Total (H)	1.417 mg/L	1
PCB-1016 (c)	0.000127 mg/L	9
PCB-1221 (c)	0.10 mg/L	10
PCB-1232 (c)	0.000318 mg/L	9
PCB-1242 (c)	0.00020 mg/L	10
PCB-1248 (c)	0.002544 mg/L	9
PCB-1254 (c)	0.10 mg/L	10
PCB-1260 (c)	0.000477 mg/L	9
Phenols, Total	1.0 mg/L	11
Pyrene (PAH,c)	0.01 mg/L	10
Selenium, Total (*)	0.2385 mg/L	9
Silver, Total (H)	0.0318 mg/L	9
Toluene	10.0 mg/L	3
Trichloroethylene (c)	0.0027 mg/L	3
Zinc, Total (H)	0.117 mg/L	1

Sources

1. "EPA Recommended Ambient Water Quality Criteria." Acute Aquatic Life Freshwater
2. "EPA Recommended Ambient Water Quality Criteria." LOEL Acute Freshwater
3. "EPA Recommended Ambient Water Quality Criteria." Human Health Criteria for Consumption of Water & Organisms
4. Secondary Treatment Regulations (40 CFR 133)
5. Factor of 4 times BOD₅ concentration - North Carolina benchmark
6. North Carolina storm water benchmark derived from NC Water Quality Standards
7. National Urban Runoff Program (NURP) median concentration
8. Median concentration of Storm Water Effluent Limitation Guideline (40 CFR Part 419)
9. Minimum Level (ML) based upon highest Method Detection Limit (MDL) times a factor of 3.18
10. Laboratory derived Minimum Level (ML)
11. Discharge limitations and compliance data
12. "EPA Recommended Ambient Water Quality Criteria." Chronic Aquatic Life Freshwater
13. Colorado - Chronic Aquatic Life Freshwater - Water Quality Criteria

Notes:

(*) Limit established for oil and gas exploration and production facilities only.

(c) carcinogen
(H) hardness dependent
(PAR) Polynuclear Aromatic Hydrocarbon

Assumptions:

Receiving water temperature - 20 C
Receiving water pH - 7.8
Receiving water hardness CaCO₃ 100 mg/L
Receiving water salinity 20 g/kg
Acute to Chronic Ratio (ACR) - 10

As can be seen in Table 3, benchmark concentrations were determined based upon a number of existing standards or other sources to represent a level above which water quality concerns could arise. EPA also sought to develop values which can realistically be measured and achieved by industrial facilities. Moreover, storm water discharges with pollutant concentrations occurring below these levels would not warrant further analytical monitoring due to their de minimis potential effect on water quality.

The primary source of benchmark concentrations is EPA's National Water Quality Criteria, published in 1986 (often referred to as the "Gold Book"). For the majority of the benchmarks, EPA chose to use the acute aquatic life, fresh water ambient water quality criteria. These criteria represent maximum concentration values for a pollutant which, if exceeded, could cause acute effects on aquatic life such as mortality in a short period of time. Where acute criteria values were not available, EPA used the lowest observed effect level (LOEL) acute fresh water value. The LOEL values represent the lowest concentration of a pollutant that results in an adverse effect over a short period of time. These two acute freshwater values were selected as benchmark concentrations if the value was not below the approved method detection limit as listed in 40 CFR Part 136 and the value was not substantially above the concentration which EPA believes a facility can attain through the implementation of a storm water pollution prevention plan. These acute freshwater values best represent, on a national basis, the highest concentrations at which typical fresh water species can survive exposures of pollutants for short durations (i.e., a storm discharge event).

Acute freshwater criteria do not exist for a number of parameters on which EPA received data. For these parameters, EPA selected benchmark values from several other references. The benchmark concentrations for five day biochemical oxygen demand (BOD₅) and for pH are determined based upon the secondary wastewater treatment regulations (40 CFR 133.102). EPA believes that the BOD₅ value of 30 mg/L is a reasonable concentration below which adverse effects in receiving waters under wet weather flow conditions should not occur. EPA also believes, that given group application data on BOD₅, this value should be readily achievable by industrial storm water dischargers. The benchmark value for pH is a range of 6.0-9.0 standard units. EPA believes this level, given the group application data, is reasonably achievable by industrial storm water dischargers and represents an acceptable range within which aquatic life impacts will not occur. The benchmark concentration for chemical oxygen demand (COD) is based upon the State of North Carolina benchmark values for storm water discharges, and is a factor of four times the BOD₅ benchmark concentration. EPA has concluded that COD is generally discharged in domestic wastewater at four times the concentration of BOD₅ without causing adverse impacts on aquatic life. EPA selected the median concentration from the National Urban Runoff Program as the benchmark for total suspended solids (TSS), total kjeldahl nitrogen (TKN) (DEQ) and for nitrate plus nitrite as nitrogen. DEQ combined the benchmarks for TKN and nitrate plus nitrite as nitrogen to come up with a benchmark for total nitrogen

(DEQ). EPA believes the median concentration, which is the mid-point concentration (half the samples are above this level and half are below) represents concentration above which water quality concerns may result. For TSS a value of 100 mg/L is similar to the storm water benchmark used by North Carolina for storm water permits, and given the group application data, should be readily achievable by industry with implementation of BMPs, many of which are designed for the purpose of controlling TSS. EPA also believes, given the group application data, that there is a relationship between TSS and the amount of exposed industrial activity and that industrial activities even in arid western States should be able to implement BMPs that will accomplish this benchmark. EPA selected the storm water effluent limitation guideline for petroleum refining facilities as the benchmark for oil and grease and total organic carbon (DEQ). Given the lack of an acute criteria, EPA selected the chronic fresh water quality criteria as the benchmark for iron. Water quality criteria for waterbodies in the State of North Carolina were used to determine benchmarks for total phosphorus and for fluoride. The concentration value for phosphorus was designed to prevent eutrophication of fresh waterbodies from storm water runoff. The fluoride value was designed by North Carolina to be protective of water quality, as was the manganese value developed by Colorado. EPA believes that each of these benchmark values represents a reasonable level below which water quality impacts should not occur and they therefore represent a useful level to assess whether a pollution prevention plan is controlling pollution in storm water discharges.

For several other parameters, EPA chose benchmark values based on numerical adjustments of the acute fresh water quality criteria. Where the acute water quality criterion was below the method detection level for a pollutant, EPA used the "minimum level" (ML) as the benchmark concentration to ensure that the benchmark levels could be measured by permittees. For a few pollutants minimum levels have been published and these were used. For other pollutants, minimum levels needed to be calculated. EPA calculated the minimum levels using the methodology described in the draft "National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-based Effluent Limitations Set Below Analytical Detection/Quantitation Levels" (Michael Cook, OWEC, March 18, 1994).

Additionally, several organic compounds (ethylbenzene, fluoranthene, toluene, and trichloroethylene) have acute fresh water quality criteria at concentrations much higher than criteria developed for the protection of human health when ingesting water or fish. In addition, trichloroethylene is a human carcinogen. Therefore, EPA selected the human health criteria as benchmarks for these parameters. For dimethyl phthalate and total phenols, EPA selected benchmark concentrations based upon existing discharge limitations and compliance data (no industry had median concentrations above the selected benchmark for these parameters and therefore no industry sector is required to monitor for these two pollutants).

EPA conducted statistical analyses of the group Part 2 data for each parameter within every industry sector or subsector listed in Table 3. EPA prepared a statistical analysis of the sampling data for each pollutant parameter reported within each sector or subsector. (Only where EPA did not subdivide an industry sector into subsectors was an analysis of the entire sector's data performed.) The statistical analysis was performed assuming a delta log normal distribution of the sampling data within each sector/subsector. The analyses calculated median, mean, maximum, minimum, 95th, and 99th percentile concentrations for each parameter. The results of the analyses may be found in the appropriate section of Part VIII of EPA's 1995 Multi-Sector General Permit fact sheet. From this analysis, EPA was able to identify pollutants for further evaluation within each sector or subsector.

EPA next compared the median concentration for each pollutant for each sector or subsector to the benchmark concentrations listed in Table 3. EPA also compared the other statistical results to the benchmarks to better ascertain the magnitude and range of the discharge concentrations to help identify the pollutants of concern. EPA did not conduct this analysis if a sector had data for a pollutant from less than three individual facilities. Under these circumstances, the sector or subsector would not have this pollutant identified as a pollutant of concern. This was done to ensure that a reasonable number of facilities represented the industry sector or subsector as a whole and that the analysis did not rely on data from only one facility.

Further evaluation of the EPA fact sheet by DEQ has resulted in slight modifications to the benchmark monitoring requirements recommended by EPA. This is most notable in the inclusion of the total kjeldahl nitrogen and total organic carbon parameters in certain industrial sectors which had median values above the benchmark set by DEQ (Table 3).

In preparation of the 1999 Industrial Storm Water General Permit fact sheet, DEQ conducted a supplemental analysis of the information presented in the EPA 1995 Multi-Sector General Permit fact sheet. For each industry sector or subsector, parameters with a median concentration higher than the EPA benchmark level were considered pollutants of concern for the industry and identified as potential pollutants for analytical monitoring under this permit. DEQ then established its own monitoring cut-off concentrations for the pollutants of concern. The levels are set at concentrations that are more specific to permits in Virginia than are those in the 1995 EPA fact sheet. Certain values for metals have been converted from mg/L to ug/L and rounded to simplify compliance. The parameters, the cut-off concentrations and the sources from which they are derived are listed in Table 4. The monitoring cut-off concentrations are all at or above levels of quantification that are attainable using EPA approved analytical methods.

TABLE 4. ANALYTICAL MONITORING CUT-OFF CONCENTRATIONS

Effluent Parameter	Monitoring Cut-off Concentration	Source
Biochemical Oxygen Demand (5 day)	30 mg/L	1
pH	within the range 6.0-9.0 su	1
Total Suspended Solids	100 mg/L	2
Total Kjeldahl Nitrogen	1.5 mg/L	2
Total Nitrogen	2.2 mg/L	2
Total Organic Carbon	110 mg/L	3
Total Phosphorus	2 mg/L	4
Aluminum	750 ug/L	5
Arsenic	50 ug/L	6
Cadmium	3.9 ug/L	6
Chromium	16 ug/L	6
Copper	18 ug/L	6
Cyanide	22 ug/L	6
Iron	1 mg/L	5
Lead	120 ug/L	6
Mercury	2.4 ug/L	6
Selenium	20 ug/L	6
Silver	4.1 ug/L	6
Zinc	120 ug/L	6

Note: Metals are to be analyzed as total recoverable.

Sources used by DEQ to establish analytical monitoring cut-off concentrations:

1. Secondary Treatment Regulations (40 CFR 133)

2. National Urban Runoff Program (NURP) median concentration
3. Median concentration of Storm Water Effluent Limitation Guideline (40 CFR Part 419)
4. Virginia policy for Nutrient Enriched Waters, 9 VAC 25-40-10 et seq.
5. "EPA Recommended Ambient Water Quality Criteria." Aquatic Life Freshwater
6. Virginia Water Quality Standards, 9 VAC 25-260-140

DEQ then analyzed the list of potential pollutants to be monitored against the lists of significant materials exposed and industrial activities which occur within each industry sector or subsector as described in the EPA fact sheet information. Where DEQ could identify a source of a potential pollutant which is directly related to industrial activities of the industry sector or subsector, the permit identifies that parameter for analytical monitoring. If DEQ could not identify a source of a potential pollutant which was associated with the sector/sub-sector's industrial activity, the permit does not require monitoring for the pollutant in that sector/subsector. Industries with no pollutants for which the median concentrations are higher than the benchmark levels are not required to perform analytical monitoring under this permit, with the exceptions explained below.

When the DEQ monitoring cut-off concentrations were used to screen the group application data in the EPA fact sheet, several changes were made. The median values for lead at agricultural chemical manufacturing facilities and at water transportation facilities were below the DEQ cut-off concentration. Therefore, these industrial sectors will not be required to monitor for lead. Data from the scrap recycling and waste recycling facilities indicated that cadmium and chromium may be present in discharges at levels above the DEQ cut-off concentrations. These two parameters were added to the monitoring requirements for that industry. Monitoring for pH was added to the concrete and gypsum subsector due to the nature of the industrial activity and the potential for high pH storm water discharges.

DEQ also dropped monitoring for chemical oxygen demand in all industrial sectors because it is not an effective indicator parameter for the oxygen demand that effluents exert on receiving waters. Where EPA had required COD monitoring, DEQ substituted BOD₅ (for paperboard mills) or TOC (at hazardous waste facilities), or deleted the requirement.

In addition to the sectors and subsectors identified for benchmark monitoring using the methods described above, DEQ determined, based upon a review of the degree of exposure, types of materials exposed, special studies and in some cases inadequate sampling data in the EPA group applications, that industries in the following sections of this fact sheet also warrant analytical monitoring notwithstanding the absence of data on the presence or absence of certain pollutants in the group applications: hazardous waste treatment storage and disposal facilities, and airports which use more than 100,000 gallons per year of glycol-based fluids or 100 tons of urea for deicing. These industries are required to perform analytical monitoring under the permit due to the high potential for contamination of storm water discharges, which was not adequately characterized by group applicants in the information they provided in the EPA group application process.

c. Numeric effluent limitations: Seven types of storm water discharges subject to effluent limitation guidelines may be covered under this general permit. These discharges include contaminated storm water runoff from timber products facilities, phosphate fertilizer manufacturing facilities, runoff associated with asphalt paving or roofing emulsion production, runoff from material storage piles at cement manufacturing facilities, contaminated runoff from hazardous waste landfills, contaminated runoff from municipal solid waste landfills, and coal pile runoff at steam electric generating facilities. These limitations are required under the VPDES

permit regulation, 9 VAC 25-31-220 A, and EPA's storm water effluent limitation guidelines in the Code of Federal Regulations at 40 CFR Part 429, Part 418, Part 443, Part 411, Part 445 Subparts A and B, and Part 423. The effluent limitations for the seven discharge categories are listed in Table 5.

TABLE 5. NUMERIC EFFLUENT LIMITATIONS

Industrial Sector	Parameter	Effluent Limitation	
Coal Pile Runoff Coal pile runoff at any covered facility.	Total Suspended Solids (TSS)	50 mg/l, max	
	pH	6.0 - 9.0 min. and max.	
Sector A - Timber Products Wet Decking Discharges at Log Storage and Handling Areas (SIC 2411).	pH	6.0 - 9.0 s.u.	
	Debris (woody material such as bark, twigs, branches, heartwood, or sapwood)	No discharge of debris that will not pass through a 2.54 cm (1") diameter round opening.	
Sector C - Chemical and Allied Products Manufacturing Phosphate Subcategory of the Fertilizer Manufacturing Point Source Category (40 CFR 418.10 (2002)) (SIC 2874).	Total Phosphorus (as P)	105 mg/L, Daily Maximum	35 mg/L, 30-day Average
	Fluoride	75 mg/L, Daily Maximum	25 mg/L, 30-day Average
Sector D - Asphalt Paving and Roofing Materials Discharges from areas where production of asphalt paving and roofing emulsions occurs (SIC 2951, 2952).	Total Suspended Solids (TSS)	23 mg/L, Daily Maximum	15 mg/L, 30-day Average
	Oil and Grease	15 mg/L, Daily Maximum	10 mg/L, 30-day Average
	pH	6.0 - 9.0 s.u.	
Sector E - Glass, Clay, Cement, Concrete and Gypsum Products Cement Manufacturing Facility, Material Storage Run-off.	Total Suspended Solids (TSS)	50 mg/L, Daily Maximum	
	pH	6.0 - 9.0 s.u.	
Sector K - Hazardous Waste TSD Facilities Hazardous Waste Treatment, Storage, or Disposal Facilities (Industrial Activity Code "HZ") Subject to the Provisions of 40 CFR Part 445 Subpart A (2002).	Biochemical Oxygen Demand (BOD ₅)	Maximum Daily	Max. Monthly Ave.
		220 mg/L	56 mg/L
	Total Suspended Solids (TSS)	88 mg/L	27 mg/L
	Ammonia	10 mg/L	4.9 mg/L
	Alpha Terpineol	0.042 mg/L	0.019 mg/L
	Aniline	0.024 mg/L	0.015 mg/L
	Benzoic Acid	0.119 mg/L	0.073 mg/L
	Naphthalene	0.059 mg/L	0.022 mg/L
	p-Cresol	0.024 mg/L	0.015 mg/L
	Phenol	0.048 mg/L	0.029 mg/L
	Pyridine	0.072 mg/L	0.025 mg/L
	Arsenic (Total)	1.1 mg/L	0.54 mg/L
	Chromium (Total)	1.1 mg/L	0.46 mg/L
	Zinc (Total)	0.535 mg/L	0.296 mg/L
	pH	Within the range of 6.0 - 9.0 s.u.	
Sector L - Landfills Landfills (Industrial Activity Code "LF") Which Are Subject to the Requirements of 40 CFR Part 445 Subpart B (2002).	Biochemical Oxygen Demand (BOD ₅)	Maximum Daily	Max. Monthly Ave.
		140 mg/L	37 mg/L
	Total Suspended Solids (TSS)	88 mg/L	27 mg/L
	Ammonia	10 mg/L	4.9 mg/L
	Alpha Terpineol	0.033 mg/L	0.016 mg/L
	Benzoic Acid	0.12 mg/L	0.071 mg/L
	p-Cresol	0.025 mg/L	0.014 mg/L
	Phenol	0.026 mg/L	0.015 mg/L
	Zinc (Total)	0.20 mg/L	0.11 mg/L
	pH	Within the range of 6.0 - 9.0 s.u.	

(1) Coal Pile Runoff. This permit establishes effluent limitations of 50 mg/L total suspended solids and a pH range of 6.0-9.0 for coal pile runoff. Any untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff associated with a 10-year, 24-hour rainfall event is not subject to the 50 mg/L limitation for total suspended solids. The permit extends these effluent limitations to all industrial operations that discharge coal pile runoff, where the coal pile runoff can be defined as a storm water discharge associated with industrial activity (i.e., at a plant in one of the industrial sectors listed in Table 1). DEQ has adopted these technology-based pH limitations in this general permit in accordance with setting limits on a case-by-case basis as allowed under 9 VAC 25-31-220 A. These case-by-case limits are derived by transferring the known achievable technology from an effluent guideline to a similar type of discharge. When developing these technology-based limitations, variables such as rainfall pH, sizes of coal piles, pollutant characteristics, and runoff volume were considered. Therefore, these variables need not be considered again. As discussed above, these pH limitations are technology-based and are not based on water quality. Facilities must comply with these limitations upon submittal of the registration statement. Facilities with treatment works for coal pile runoff are expected to meet the limitations.

(2) Compliance monitoring. Compliance monitoring requirements are imposed under this permit to ensure that discharges subject to numerical effluent limitations under the storm water effluent limitations guidelines are in compliance with those limitations. All samples are to be grab samples taken within the first 30 minutes of discharge where practicable, but in no case later than the first hour of discharge. The samples are to be taken from the discharges subject to the numeric effluent limitations prior to mixing with other discharges. Discharges covered under this permit which are subject to numeric effluent limitations are not eligible for the low concentration, alternative certification or representative discharges sampling waiver provisions of the permit.

In addition to the analytical results, permittees are required to provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled.

2. Monitoring Waivers/Reporting Monitoring Results/Record Keeping:

a. Monitoring Waivers: The general permit allows permittees to waive the benchmark monitoring requirement under certain circumstances. Permittees may waive the benchmark analytical monitoring requirement on both a parameter by parameter and outfall by outfall basis if they can demonstrate that the average concentration for a pollutant in the discharge is at or below the pollutant-specific monitoring cut-off concentration. If the permittee's monitoring data during two consecutive monitoring periods indicates pollutants are below the monitoring cut-off concentrations, then monitoring during the remaining permit monitoring periods may be waived. The exclusion from monitoring is conditional on the facility maintaining industrial operations and best management practices that will ensure a quality of storm water discharges consistent with the average concentrations recorded during the earlier monitoring period. For any benchmark monitoring waiver, the permittee must submit a waiver request to the Department, along with the supporting monitoring data, and a certification that there has not been a significant change in industrial activity or the pollution prevention measures in area of the facility that drains to the outfall for which the sampling waiver is requested.

Permittees may waive monitoring if adverse weather conditions make it unsafe or impossible to collect the sample.

Quarterly visual monitoring and benchmark monitoring may be waived if the industrial site is both inactive and unstaffed. Also for quarterly visual monitoring and benchmark monitoring, permittees are allowed to sample one outfall as representative of other similar outfalls, provided the permittee can demonstrate that the outfalls are substantially identical.

Permittees may use an alternative certification to waive the benchmark monitoring requirement if they can certify that, for a given outfall, on a pollutant-by-pollutant basis, there is no storm water exposure that would result in the discharge of the pollutant at that particular outfall or the nature of the exposure is such that the particular pollutant would not be present in the discharge.

The low concentration waiver, the representative discharge waiver and the alternative certification for no exposure for particular pollutants are not applicable to the effluent limitation compliance monitoring requirements. The alternative certification provision is also not applicable to benchmark monitoring requirements at air transportation facilities.

In order to qualify for any of these sampling waivers, the permittee must submit a certification stating that the conditions required for the waiver were occurring at the time sampling was to have been conducted.

b. Reporting Monitoring Results: Permittees that are required to submit monitoring results to the Department must send reports to the Department's regional office not later than the 10th day of the month following the sampling event. Monitoring results are to be submitted on a Discharge Monitoring Report form. For each outfall, one Discharge Monitoring Report form must be submitted per storm event sampled. The permittee must include a measurement or estimate of the total precipitation, volume of runoff, and peak flow rate of runoff for each storm event sampled.

All reports are to be submitted to the DEQ regional office that issued general permit coverage. Permittees with discharges to municipal separate storm sewer systems are required to submit a copy of their monitoring report to the operator of the municipal system.

Permittees are not required to submit records of the visual examinations of storm water discharges unless specifically asked to do so by DEQ. Records of the visual examinations must be maintained at the facility. Records of visual examination of storm water discharge need not be lengthy. Permittees may prepare typed or hand written reports using forms or tables which they may develop for their facility. The report need only document: the date and time of the examination; the name of the individual making the examination; and any observations of color, odor, clarity, floating solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution.

c. Record Keeping: Pursuant to the requirements of 9 VAC 25-31-190 J, this permit requires permittees to retain all records for a minimum of 3 years from the date of the sampling, examination, or other activity that generated the data.

Permit Special Conditions

1. Prohibition of Non-storm Water Discharges. This general permit does not authorize non-storm water discharges that are mixed with storm water except as provided below. The only non-storm

water discharges that are intended to be authorized under this permit include discharges from fire fighting activities; fire hydrant flushings; potable water including water line flushings; uncontaminated air conditioning or compressor condensate; irrigation drainage; landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with manufacturer's instructions; pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed); routine external building wash down which does not use detergents; uncontaminated ground water or spring water; foundation or footing drains where flows are not contaminated with process materials such as solvents; incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

To be authorized under the general permit, these sources of non-storm water (except flows from fire fighting activities) must be identified in the storm water pollution prevention plan prepared for the facility. Where such discharges occur, the plan must also identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

This permit does not require pollution prevention measures to be identified and implemented for non-storm water flows from fire-fighting activities because these flows will generally be unplanned emergency situations where it is necessary to take immediate action to protect the public.

The prohibition of unpermitted non-storm water discharges in this permit ensures that non-storm water discharges are not inadvertently authorized by this permit. Where a storm water discharge is mixed with non-storm water that is not authorized by this general permit or another VPDES permit, the discharger should submit the appropriate application forms (Forms 1, 2C, and/or 2E) to gain permit coverage of the non-storm water portion of the discharge.

2. Releases of Hazardous Substances or Oil. The permit prohibits discharges of oil and-hazardous substances from spills. The discharge of hazardous substances or oil from a facility must be eliminated or minimized in accordance with the storm water pollution prevention plan developed for the facility. If there is a discharge of a material in excess of a reportable quantity established under 40 CFR Parts 110, 117, or 302 the permittee must make a report to the Department within 24 hours. The permittee must also notify the MS4 operator if the release enters an MS4. The pollution prevention plan for the facility must be reviewed and revised as necessary to prevent a reoccurrence of the spill. This does not relieve the permittee from any reporting to federal or state authorities required under 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 or § 62.1-44.34:19 of the Code of Virginia.

3. Co-located Industrial Activity. Where more than one regulated industrial activity occurs at the site, the permittee is required to implement the industry specific monitoring and pollution prevention requirements for all applicable industrial categories. Co-located industrial activities occur when activities being conducted onsite meet more than one of the industrial sector descriptions in the permit (e.g., a landfill at a wood treatment facility or a vehicle maintenance garage at an asphalt batching plant). Determination of which co-located activities require action is the responsibility of the permittee.

Authorizing co-located discharges allows industrial facilities to develop pollution prevention plans that fully address all industrial activities at the site. For example, if a wood treatment facility has a landfill, the pollution prevention plan requirements for the wood treatment facility will differ greatly from those needed for a landfill. Therefore, by authorizing co-located industrial activities, the wood

treatment facility will develop a pollution prevention plan to meet the requirements addressing the storm water discharges from the wood treatment facility and the landfill. The facility is also subject to applicable monitoring requirements for each type of industrial activity as described in the applicable sections of the permit. By monitoring the discharges from the different industrial activities, the facility can better determine the effectiveness of the pollution prevention plan requirements for controlling storm water discharges from all activities.

4. Combined Discharges. The storm water discharges regulated by the permit may be combined with unregulated storm water provided that the combined effluent meets the requirements of the general permit.

5. Floating Solids or Visible Foam. The permit prohibits discharges of floating solids or visible foam in other than trace amounts. This is a standard requirement of all VPDES permits. It typically appears in Part I with the other effluent limitations rather than in the permit boilerplate described below.

6. Additional Requirements for Salt Storage. This general permit contains special requirements for storm water discharges associated with industrial activity from facilities with salt storage piles. These special requirements have been included in this permit based on human health and aquatic effects resulting from storm water runoff from salt storage piles compounded with the prevalence of salt storage piles in Virginia. Storage piles of salt used for deicing or other commercial or industrial purposes must be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile. This requirement only applies to runoff from storage piles discharged to surface waters. Facilities that collect all of the runoff from their salt piles and reuse it in their processes or discharge it subject to a separate VPDES permit do not need to enclose or cover their piles.

7. Water Quality Protection. The permit requires that the permittee select, install, implement and maintain best management practices (BMPs) at the facility that minimize pollutants in the storm water discharges as necessary to meet applicable water quality standards. If there is evidence indicating that the storm water discharges authorized by the permit are causing, have the reasonable potential to cause, or are contributing to an excursion above an applicable water quality standard, or are causing downstream pollution (as defined in § 62.1-44.3 of the Code of Virginia), the Board may take appropriate enforcement action, may require the permittee to include and implement appropriate controls in the SWPPP to correct the problem, and/or may require the permittee to obtain an individual permit in accordance with 9 VAC 25-31-170 B 3.

Conditions Applicable to All VPDES Permits

This general permit is a VPDES permit. As such, it is necessary to include certain conditions required by the VPDES Permit Regulation, 9 VAC 25-31-10 et seq. These conditions are included in all VPDES permits. With a few minor exceptions, the language is not modified to reflect their use in the general permit. Conditions in this section of the permit may not have direct application at all covered facilities.

Storm Water Pollution Prevention Plans

The conditions of this permit have been designed to comply with the technology-based standards of the CWA (BAT/BCT). Based on a consideration of the appropriate factors for BAT and BCT requirements, the general permit lists a set of tailored requirements for developing and implementing storm water pollution prevention plans.

For discharges covered by the permit, other than those regulated by numeric effluent limitations, the permit conditions reflect DEQ's decision to identify a number of best management practices and traditional storm water management practices which prevent pollution in storm water discharges as the BAT/BCT level of control for the majority of storm water discharges covered by this permit. The permit conditions applicable to these discharges are not numeric effluent limitations, but rather are flexible requirements for developing and implementing site specific plans to minimize and control pollutants in storm water discharges associated with industrial activity. This approach is consistent with the approach used in the Industrial Storm Water General Permit issued on June 30, 1999. In addition, this general permit reflects information provided in the EPA Multi-Sector General Permit issued October 30, 2000.

DEQ is authorized under 9 VAC 25-31-220 K to impose BMPs in lieu of numeric effluent limitations in VPDES permits when the agency finds numeric effluent limitations to be infeasible. DEQ may also impose BMPs which are "reasonably necessary ... to carry out the purposes of the Law and the CWA" under 9 VAC 25-31-220 K 3. The conditions in the permit are issued under the authority of both of these regulatory provisions. The pollution prevention or BMP requirements in this permit operate as limitations on effluent discharges that reflect the application of BAT/BCT. This is because the BMPs identified require the use of source control technologies which, in the context of this general permit, are the best available of the technologies economically achievable (or the equivalent BCT finding) .

All facilities intending to be covered by this general permit must prepare and implement a storm water pollution prevention plan. Existing general permit holders that are renewing coverage under the permit must update and implement any changes to their SWPPP by August 30, 2004. Facilities that are seeking new coverage under the general permit must develop and implement the SWPPP prior to submittal of the Registration Statement. Facilities are not required to submit the pollution prevention plans for review unless they are requested by the Department or by the operator of a municipal separate storm sewer system. When a plan is reviewed by DEQ, the Director can require the permittee to amend the plan if it does not meet the minimum permit requirements.

The permit addresses storm water pollution prevention plan requirements for a number of categories of industries. The following is a discussion of the common permit requirements for all industries; special requirements for storm water discharges associated with industrial activity through municipal separate storm sewer systems; and special requirements for facilities subject to EPCRA Section 313 reporting requirements. These are the permit requirements which apply to discharges associated with any of the industrial activities covered by this permit. These common requirements may be amended or further clarified in the industry-specific pollution prevention plan requirements of the permit.

The industry-specific requirements are derived from the 2000 EPA Multi-Sector General Permit and are based on an evaluation of the nature of the industrial activity, the pollutants in that activity's storm water and applicable pollution control options. This framework provides the necessary flexibility to address the variable risk for pollutants in storm water discharges associated with the different types of industrial activity addressed by this permit. This approach also assures that facilities have the opportunity to identify procedures to prevent storm water pollution at a particular site that are appropriate, given processes employed, engineering aspects, functions, costs of controls, location, and age of the facility. The approach taken also allows the flexibility to establish controls that can appropriately address different sources of pollutants at different facilities. These industry-specific requirements are additive for facilities where co-located industrial activities occur. For example, if a facility has both a primary metals operation and a scrap recycling operation, then that facility is subject to the pollution prevention plan requirements in both parts of the permit.

The pollution prevention approach in this general permit focuses on two major objectives: (1) to identify sources of pollution potentially affecting the quality of discharges from the facility; and (2) to describe and ensure implementation of practices to minimize and control pollutants in discharges from the facility and to ensure compliance with the terms and conditions of this permit.

The storm water pollution prevention plan requirements in the general permit are intended to facilitate a process whereby the operator of the industrial facility thoroughly evaluates potential pollution sources at the site and selects and implements appropriate measures designed to prevent or control the discharge of pollutants in storm water runoff. The process involves the following four steps: (1) formation of a team of qualified plant personnel who will be responsible for preparing the plan and assisting the plant manager in its implementation; (2) site description and assessment of potential storm water pollution sources; (3) selection and implementation of appropriate management practices and controls; and (4) periodic evaluation of the effectiveness of the plan to prevent storm water contamination and comply with the terms and conditions of this permit.

Storm water pollution prevention plans may reference the existence of other plans such as those for erosion and sediment control (ESC), Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under Section 31.1 of the CWA, or Best Management Practices (BMP) programs otherwise required for the facility as long as the other plan meets the minimum requirements of the permit and it is incorporated into the storm water pollution prevention plan. Any other plans so referenced become enforceable parts of the permit.

The pollution prevention approach is the most environmentally sound and cost-effective way to control the discharge of pollutants in storm water runoff from industrial facilities. Two classes of management practices are generally employed at industries to control the non-routine discharge of pollutants from sources such as storm water runoff, drainage from raw material storage and waste disposal areas, and discharges from places where spills or leaks have occurred. The first class of management practices includes those that are low in cost, applicable to a broad class of industries and substances, and widely considered essential to a good pollution control program. Some examples of practices in this class are good housekeeping, employee training, and spill response and prevention procedures. The second class includes management practices that provide a second line of defense against the release of pollutants. This class addresses containment, mitigation, and cleanup. Experience with these practices and controls has shown that they can be used in permits to reduce pollutants in storm water discharges in a cost-effective manner. Pollution prevention has been and continues to be the cornerstone of the VPDES permitting program for storm water. EPA has developed guidance entitled "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices", September 1992, to assist permittees in developing and implementing pollution prevention measures. (Contact the EPA National Center for Environmental Publications and Information, P.O. Box 42419, Cincinnati, OH 45242-2419, toll free 800-490-9198.)

1. Pollution Prevention Team. As a first step in the process of developing and implementing a storm water pollution prevention plan, permittees are required to identify a qualified individual or team of individuals to be responsible for developing the plan and assisting the facility or plant manager in its implementation. When selecting members of the team, the plant manager should draw on the expertise of all relevant departments within the plant to ensure that all aspects of plant operations are considered when the plan is developed. The plan must clearly describe the responsibilities of each team member as they relate to specific components of the plan. In addition to enhancing the quality of communication between team members and other personnel, clear delineation of responsibilities will ensure that every aspect of the plan is addressed by a specified

individual or group of individuals. Pollution Prevention Teams may consist of one individual where appropriate (e.g., in certain small businesses with limited storm water pollution potential) .

2. Site Description. Each storm water pollution prevention plan must describe activities, materials, and physical features of the facility that may contribute significant amounts of pollutants to storm water runoff or, during periods of dry weather, result in pollutant discharges through the separate storm sewers or storm water drainage systems that drain the facility. This assessment of storm water pollution risk will support subsequent efforts to identify and set priorities for necessary changes in materials, materials management practices, or site features, as well as aid in the selection of appropriate structural and nonstructural control techniques. Some operators may find that significant amounts of pollutants are running onto the facility property. Such operators should identify and address the contaminated runoff in the storm water pollution prevention plan. If the runoff cannot be addressed or diverted by the permittee, the Department should be notified. If necessary, the DEQ may require the operator of the adjacent facility to obtain a permit.

3. Contents of the Plan. The storm water pollution prevention plans generally must describe the following elements:

a. Activities At the Facility. The plan must contain a map of the site that shows the location of outfalls covered by the permit (or by other VPDES permits), the pattern of storm water drainage, an indication of the types of discharges contained in the drainage areas of the outfalls, structural features that control pollutants in runoff, surface water bodies (including wetlands), places where significant materials are exposed to rainfall and runoff, and locations of major spills and leaks that occurred in the 3 years prior to the date of the submission of a registration statement to be covered under this permit. The map also must show areas where the following activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading/unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; processing and storage areas; access roads, rail cars and tracks; the location of transfer of substance in bulk; and machinery. The map must also show the location and description of non-storm water discharges, and the location and source of runoff from adjacent property containing significant quantities of pollutants of concern to the facility (the permittee may include an evaluation of how the quality of the storm water running onto the facility impacts the facility's storm water discharges). The name of the nearest receiving waters, including intermittent streams, dry sloughs, arroyos and the areal extent and description of wetland sites that may receive discharges from the facility must also be included.

b. Summary of Potential Pollutant Sources. The description of potential pollution sources culminates in a narrative assessment of the risk potential that sources of pollution pose to storm water quality. This assessment should clearly point to activities, materials, and physical features of the facility that have a reasonable potential to contribute significant amounts of pollutants to storm water. Any such activities, materials, or features must be addressed by the measures and controls subsequently described in the plan. In conducting the assessment, the facility operator must consider the following activities: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and onsite waste disposal practices. The assessment must list any significant pollution sources at the site and identify the pollutant parameter or parameters (i.e., biochemical oxygen demand, suspended solids, etc.) associated with each source.

c. Spills and Leaks. The plan must include a list of any significant spills and leaks of toxic or hazardous pollutants that occurred in the 3 years prior to the date of the submission of a

registration statement to be covered under the permit. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Section 311 of CWA (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see 40 CFR 302.4). Significant spills may also include releases of oil or hazardous substances that are not in excess of reporting requirements and releases of materials that are not classified as oil or a hazardous substance.

The listing should include a description of the causes of each spill or leak, the actions taken to respond to each release, and the actions taken to prevent similar such spills or leaks in the future. This effort will aid the facility operator as she or he examines existing spill prevention and response procedures and develops any additional procedures necessary to fulfill the requirements of the permit.

d. Sampling Data. Any existing data on the quality or quantity of storm water discharges from the facility must be described in the plan. These data may be useful for locating areas that have contributed pollutants to storm water. The description should include a discussion of the methods used to collect and analyze the data. Sample collection points should be identified in the plan and shown on the site map.

e. Storm Water Controls. Following completion of the source identification and assessment phase, the permit requires the permittee to evaluate, select, and describe the pollution prevention measures, best management practices (BMPs), and other controls that will be implemented at the facility. BMPs include processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff.

Source reduction measures include, among others, preventive maintenance, chemical substitution, spill prevention, good housekeeping, training, and proper materials management. Where such practices are not appropriate to a particular source or do not effectively reduce pollutant discharges, DEQ supports the use of source control measures and BMPs such as material segregation or covering, water diversion, and dust control. Like source reduction measures, source control measures and BMPs are intended to keep pollutants out of storm water. The remaining classes of BMPs, which involve recycling or treatment of storm water, allow the reuse of storm water or attempt to lower pollutant concentrations prior to discharge.

The pollution prevention plan must discuss the reasons each selected control or practice is appropriate for the facility and how each will address one or more of the potential pollution sources identified in the plan. The plan also must include a schedule specifying the time or times during which each control or practice will be implemented. In addition, the plan should discuss ways in which the controls and practices relate to one another and, when taken as a whole, produce an integrated and consistent approach for preventing or controlling potential storm water contamination problems. The permit requirements included for the various industry sectors in the permit generally require that the portion of the plan that describes the measures and controls address the following minimum components.

When "minimize/reduce" is used relative to pollution prevention plan measures, it means to consider and implement best management practices that will result in an improvement over the baseline conditions as it relates to the levels of pollutants identified in storm water discharges with due consideration to economic feasibility and effectiveness.

(1) Non-Structural BMPs:

(a) Good Housekeeping. Good housekeeping involves using practical, cost-effective methods to identify ways to maintain a clean and orderly facility and keep contaminants out of separate storm sewers. It includes establishing protocols to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. These protocols must be described in the plan and communicated to appropriate plant personnel.

(b) Minimizing Exposure. Eliminating exposure of all industrial activities to precipitation may make the facility eligible for the "Conditional Exclusion for No Exposure" provision of 9 VAC 25-31-120 F, thereby eliminating the need to have a permit. Where practicable, industrial materials and activities should be protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, or run-off.

(c) Preventive Maintenance. Permittees must develop a preventive maintenance program that involves regular inspection and maintenance of storm water management devices and other equipment and systems. The program description should identify the devices, equipment, and systems that will be inspected; provide a schedule for inspections and tests; and address appropriate adjustment, cleaning, repair, or replacement of devices, equipment, and systems. For storm water management devices such as catch basins and oil/water separators, the preventive maintenance program should provide for periodic removal of debris to ensure that the devices are operating efficiently. For other equipment and systems, the program should reveal and enable the correction of conditions that could cause breakdowns or failures that may result in the release of pollutants.

(d) Spill Prevention and Response Procedures. Based on an assessment of possible spill scenarios, permittees must specify appropriate material handling procedures, storage requirements, containment or diversion equipment, and spill cleanup procedures that will minimize the potential for spills and in the event of a spill enable proper and timely response. Areas and activities that typically pose a high risk for spills include loading and unloading areas, storage areas, process activities, and waste disposal activities. These activities and areas, and their accompanying drainage points, must be described in the plan. For a spill prevention and response program to be effective, employees should clearly understand the proper procedures and requirements and have the equipment necessary to respond to spills.

(e) Routine Facility Inspections. In addition to the comprehensive site evaluation, facilities are required to conduct quarterly inspections of designated equipment and areas of the facility. Industry-specific requirements for such inspections, if any, are presented in the permit. When required, qualified personnel must be identified to conduct inspections. A set of tracking or follow-up procedures must be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections must be maintained. These periodic inspections are different from the comprehensive site evaluation, even though the former may be incorporated into the latter. Equipment, area, or other inspections are typically visual and are normally conducted on a regular basis, e.g., daily inspections of loading areas. Requirements for such periodic inspections are specific to each industrial sector in this permit, whereas the comprehensive site compliance evaluation is required of all industrial sectors. Area inspections help ensure that storm water pollution prevention measures (e.g., BMPs) are operating and properly

maintained on a regular basis. The comprehensive site evaluation is intended to provide an overview of the entire facility's pollution prevention activities. See below for more information on the comprehensive site evaluation.

(f) Employee Training. The pollution prevention plan must describe a program for informing personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. The training program should address topics such as good housekeeping, materials management, and spill response procedures. Where appropriate, contractor personnel also must be trained in relevant aspects of storm water pollution prevention. A schedule for conducting training must be provided in the plan. Several sections of the permit specify a minimum frequency for training of once per year. Others indicate that training is to be conducted at an appropriate interval. DEQ recommends that facilities conduct training annually at a minimum. However, more frequent training may be necessary at facilities with high turnover of employees or where employee participation is essential to the storm water pollution prevention plan.

(2) Structural BMPs:

(a) Sediment and Erosion Control. The pollution prevention plan must identify areas that, due to topography, activities, soils, cover materials, or other factors have a high potential for significant soil erosion. The plan must identify measures that will be implemented to limit erosion in these areas.

(b) Management of Runoff. The plan must contain a narrative evaluation of the appropriateness of traditional storm water management practices (i.e., practices other than those that control pollutant sources) that divert, infiltrate, reuse, or otherwise manage storm water runoff so as to reduce the discharge of pollutants. Appropriate measures may include, among others, vegetative swales, collection and reuse of storm water, inlet controls, snow management, infiltration devices, and wet detention/retention basins.

Based on the results of the evaluation, the plan must identify practices that the permittee determines are reasonable and appropriate for the facility. The plan also should describe the particular pollutant source area or activity to be controlled by each storm water management practice. Reasonable and appropriate practices must be implemented and maintained according to the provisions prescribed in the plan.

In selecting storm water management measures, it is important to consider the potential effects of each method on other water resources, such as ground water. Although storm water pollution prevention plans primarily focus on storm water management, facilities must also consider potential ground water pollution problems and take appropriate steps to avoid adversely impacting ground water quality. For example, if the water table is unusually high in an area, an infiltration pond may contaminate a ground water source unless special preventive measures are taken.

f. Maintenance. The permittee must maintain all BMPs identified in the plan in effective operating condition. If the facility site inspections identify BMPs that are not operating effectively, the permittee must perform maintenance before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means, such as spill response supplies available and personnel trained, etc.

g. Non-storm Water Discharges. Each pollution prevention plan must include a certification, signed by an authorized individual, that discharges from the site have been tested or evaluated for the presence of non-storm water discharges. The certification must describe possible significant sources of non-storm water, the results of any test and/or evaluation conducted to detect such discharges, the test method or evaluation criteria used, the dates on which tests or evaluations were performed, and the onsite drainage points directly observed during the test or evaluation. Acceptable test or evaluation techniques include dye tests, television surveillance, observation of outfalls or other appropriate locations during dry weather, water balance calculations, and analysis of piping and drainage schematics.

Except for flows that originate from fire fighting activities, sources of non-storm water that are specifically identified in the permit as being eligible for authorization under the general permit must be identified in the plan. Pollution prevention plans must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water discharge.

Certification may not be feasible where facility personnel do not have access to an outfall, manhole, or other point of access to the conduit that ultimately receives the discharge. In such cases, the plan must describe why certification was not feasible. Permittees who are not able to certify that discharges have been tested or evaluated must notify the DEQ in accordance with the permit.

If non-storm water discharges from the facility are authorized by a separate VPDES permit, reference to that permit must be included in the plan. Any requirements of the separate VPDES permit or a pretreatment requirement for an indirect discharger to a sanitary sewer must be considered in developing the plan.

h. Comprehensive Site Compliance Evaluation. The permit requires that the storm water pollution prevention plan describe the scope and content of the comprehensive site evaluations that qualified personnel will conduct to (1) confirm the accuracy of the description of potential pollution sources contained in the plan, (2) determine the effectiveness of the plan, and (3) assess compliance with the terms and conditions of the permit. Note that the comprehensive site evaluations are not the same as periodic or other inspections. However, in the instances when frequencies of inspections and the comprehensive site compliance evaluation overlap they may be combined allowing for efficiency, as long as the requirements for both types of inspections are met. The plan must indicate the frequency of comprehensive evaluations which must be at least once a year, except where comprehensive site evaluations are shown in the plan to be impractical for inactive mining sites, due to remote location and inaccessibility. The individual or individuals who will conduct the comprehensive site evaluation must be identified in the plan and should be members of the pollution prevention team. Material handling and storage areas and other potential sources of pollution must be visually inspected for evidence of actual or potential pollutant discharges to the drainage system. Inspectors also must observe erosion controls and structural storm water management devices to ensure that each is operating correctly. Equipment needed to implement the pollution prevention plan, such as that used during spill response activities, must be inspected to confirm that it is in proper working order.

The results of each comprehensive site evaluation must be documented in a report signed by an authorized company official. The report must describe the scope of the comprehensive site evaluation, the personnel making the comprehensive site evaluation, the date(s) of the comprehensive site evaluation, and any major observations relating to implementation of the

storm water pollution prevention plan. Comprehensive site evaluation reports must be retained for at least 3 years after the date of the evaluation. Based on the results of each comprehensive site evaluation, the description in the plan of potential pollution sources and measures and controls must be revised as appropriate within 2 weeks after each comprehensive site evaluation, unless indicated otherwise in the permit. Changes in procedural operations must be implemented on the site in a timely manner for nonstructural measures and controls not more than 12 weeks after completion of the comprehensive site evaluation. An extension may be requested from the Director.

i. Special Requirements in Storm Water Pollution Prevention Plans

(1) Special Requirements for Storm Water Discharges Associated with Industrial Activity through Municipal Separate Storm Sewer Systems. Permittees that discharge storm water associated with industrial activity through large or medium municipal separate storm sewer systems are required to submit notification of the discharge to the operator of the municipal separate storm sewer system.

Facilities covered by this permit must comply with applicable requirements in municipal storm water management programs developed under VPDES permits issued for the discharge of the municipal separate storm sewer system that receives the facility's discharge, provided the discharger has been notified of such conditions. In addition, permittees that discharge storm water associated with industrial activity through a municipal separate storm sewer system must make their pollution prevention plans available to the municipal operator of the system upon request by the municipal operator.

(2) Special Requirements for Storm Water Discharges Associated with Industrial Activity from Facilities Subject to EPCRA Section 313 Requirements. This permit contains special requirements for certain permittees subject to reporting requirements under Section 313 of the EPCRA, also known as Title III of the Superfund Amendments and Reauthorization Act (SARA). EPCRA Section 313 requires operators of certain facilities that manufacture (including import), process, or otherwise use listed toxic chemicals to report annually their releases of those chemicals to any environmental media. Listed toxic chemicals include more than 500 chemicals and chemical classes listed at 40 CFR Part 372 (including the recently added chemicals published November 30, 1994).

The criteria for facilities that must report under Section 313 are given at 40 CFR 372.22. A facility is subject to the annual reporting provisions of Section 313 if it meets all three of the following criteria for a calendar year: it is included in SIC codes 20 through 39; it has 10 or more full-time employees; and it manufactures (including imports), processes, or otherwise uses a chemical listed in 40 CFR 372.65 in amounts greater than the "threshold" quantities specified in 40 CFR 372.25.

There are more than 300 individually listed Section 313 chemicals, as well as 20 categories of Toxic Release Inventory (TRI) chemicals for which reporting is required. EPA has the authority to add to and delete from this list. EPA has identified approximately 175 chemicals that it is classifying for the purposes of this general permit as "Section 313 water priority chemicals." For the purposes of this permit, Section 313 water priority chemicals are defined as chemicals or chemical categories that (1) are listed at 40 CFR 372.65 pursuant to EPCRA Section 313; (2) are manufactured, processed, or otherwise used at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and (3) meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR Part 122 on either Table II

(organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to Section 311(b) (2) (A) of the CWA at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic toxicity criteria. In this permit, DEQ is not extending the special requirements to facilities that store liquid chemicals in above-ground tanks or handle liquid chemicals in areas exposed to precipitation if such facilities are not subject to EPCRA Section 313 reporting requirements.

The special requirements in this permit for EPCRA 313 facilities have been greatly reduced from those in the 1999 Industrial Storm Water General Permit. For this permit, any potential pollutant sources for which the facility has reporting requirements under EPCRA 313 must be identified by the permittee in the SWPPP Summary of Potential Pollutant Sources section. This requirement is only applicable if the facility is subject to reporting requirements under EPCRA 313.